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SERIAL NUMBER	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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08/451,035 05/25/95 RAMANATHAN

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VO,H

EXAMINER

24M1/1020

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ART UNIT

PAPER NUMBER

2414

DATE MAILED:
10/20/95

This is a communication from the examiner in charge of your application.
COMMISSIONER OF PATENTS AND TRADEMARKS

☒ This application has been examined ☐ Responsive to communication filed on _____ ☐ This action is made final.

A shortened statutory period for response to this action is set to expire 3 month(s), _____ days from the date of this letter.
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

- | | |
|---|---|
| 1. <input checked="" type="checkbox"/> Notice of References Cited by Examiner, PTO-892. | 2. <input type="checkbox"/> Notice of Draftsman's Patent Drawing Review, PTO-948. |
| 3. <input type="checkbox"/> Notice of Art Cited by Applicant, PTO-1449. | 4. <input type="checkbox"/> Notice of Informal Patent Application, PTO-152. |
| 5. <input type="checkbox"/> Information on How to Effect Drawing Changes, PTO-1474.. | 6. <input type="checkbox"/> _____ |

Part II SUMMARY OF ACTION

1. ☐ Claims _____ are pending in the application.
Of the above, claims _____ are withdrawn from consideration.
2. ☐ Claims _____ have been cancelled.
3. ☐ Claims _____ are allowed.
4. ☒ Claims 1-20 are rejected.
5. ☐ Claims _____ are objected to.
6. ☐ Claims _____ are subject to restriction or election requirement.
7. ☐ This application has been filed with informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.
8. ☐ Formal drawings are required in response to this Office action.
9. ☐ The corrected or substitute drawings have been received on _____. Under 37 C.F.R. 1.84 these drawings are ☐ acceptable; ☐ not acceptable (see explanation or Notice of Draftsman's Patent Drawing Review, PTO-948).
10. ☐ The proposed additional or substitute sheet(s) of drawings, filed on _____, has (have) been ☐ approved by the examiner; ☐ disapproved by the examiner (see explanation).
11. ☐ The proposed drawing correction, filed _____, has been ☐ approved; ☐ disapproved (see explanation).
12. ☐ Acknowledgement is made of the claim for priority under 35 U.S.C. 119. The certified copy has ☐ been received ☐ not been received ☐ been filed in parent application, serial no. _____; filed on _____.
13. ☐ Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.
14. ☐ Other

EXAMINER'S ACTION

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Part III DETAILED ACTION

Notice to Applicant(s)

1. This application has been examined. Claims 1-20 are pending.
2. This application has been filed with the informal drawings which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed.

Drawings

3. The drawings submitted with this applications were declared informal by the applicant. Accordingly they have not been reviewed by a draftperson at this time. When formal drawings are submitted, the draftperson will perform a review.

Direct any inquires concerning drawing review to the Drawing Review Branch (703) 305-8404.

Specification

4. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

6. Claim 1-3, 5-10, 15, and 17-20 are rejected under 35 U.S.C. § 102(b) as being anticipate by Ophir et al. (US No.5,178,147).

With respect to claim 1, Ophir et al. disclose the invention as claimed (see at least abstract) which includes: a computer that comprising: a processor, input/output device, a storage device (see figure 6), software means operative on the processor (see column 20, lines 39-43) for maintaining information on the scanner (see column 20, lines 18-20); information regarding performance standards, information regarding phantom test object (see column 9, lines 15-18), processing the phantom test object image and test output results to determine the characteristics of scanner (see column 20, lines 43-49).

With respect to claim 2, Ophir et al. disclose "software means further...object for analysis" (see column 13, lines 18-39).

With respect to claim 3, Ophir et al. disclose "software means further...limits for analysis" (see column 6, lines 30-40).

With respect to claim 5, Ophir et al. disclose "output device is a display screen" (see column 21, lines 50-52).

With respect to claim 6, Ophir et al. disclose a method of evaluating the ultrasound scanner (see column 2, lines 40-44) includes the steps of: "selecting a phantom test object within an image(see column 23,lines 34-39),"quantitative processing...evaluated the scanner" (see column 24, lines 11-17) and "outputting the analysis" (see column 15, lines 32-35).

With respect to claim 7, Ophir et al. disclose the invention as claimed including "step of selecting...phantom test object" (see column 23, lines 34-66).

With respect to claim 8, Ophir et al. disclose the invention as claimed including "quantitative processing...lateral direction" (see column 24, lines 29-40).

With respect to claim 9, Ophir et al. disclose the invention as claimed including "quantitative processing...evaluating calibration" (see column 23, lines 12-24).

With respect to claim 10, Ophir et al. disclose the invention as claimed including "quantitative

processing...evaluating uniformity" (see at least column 24, line 23).

With respect to claim 15, Ophir et al. disclose the invention as claimed including "quantitative processing...lateral direction" (see column 1, lines 55-68 through column 2, lines 1-5).

With respect to claims 17, 19-20, the limitations of these claims have been noted in the rejection above. They are therefore considered rejected as set forth above.

With respect to claim 18, Ophir et al. disclose the invention as claimed including "outputting the analysis...sets of tests" (see figures 2b-3c and 5a-5d).

Therefore, all of the limitations of claims 1-3, 5-10, 15, and 17-20 are met by Ophir et al.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this

section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. § 103, the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 C.F.R. § 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of potential 35 U.S.C. § 102(f) or (g) prior art under 35 U.S.C. § 103.

8. Claims 4, 11-14, and 16 are rejected under 35 U.S.C. § 103 as being unpatentable over Ophir et al. (US No. 5,178,147).

With respect to claim 4, Ophir et al. disclose the method of evaluating an ultrasound scanner although Ophir et al. fail to disclose the output device is a printer but they disclose that the control system, a processor and computer, could be connected to any output devices such as a printer. It would have been obvious to one of ordinary skill in the art, at the time the invention would have readily recognized that a printer must include in an apparatus for evaluating an ultrasound scanner.

With respect to claim 11-12 and 16, Ophir et al. disclose the method of evaluating an ultrasound scanner as quantitative processing in the more realistic three-dimensional case (see column 11, lines 15-28) except teaching about evaluating vertical, horizontal pin objects, dead zone and penetration depth. It would have been obvious to one of ordinary skill in

the art, at the time the invention was made, to understand three-dimension that includes vertical, horizontal and depth.

With respect to claim 13-14, Ophir et al. disclose the invention as claimed that includes evaluating various diseases within organ tissue (see column 4, lines 59-68) except teaching about evaluating cyst objects . It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to understand disease organic tissue that will include liver disease, prostate cancer, breast cancer, cyst and tumor or the like.

Conclusion

9. All claims are rejected.

10. The following references are cited as being of general interest:

Soldner (US No.4,245,511) discloses an ultrasonic applicator for ultrasonic scanning of bodies and method of using the same.

Lopez et al. (US No.4,331,021) disclose a contrast resolution tissue-equivalent ultrasound test object.

Green et al. (US No.4,433,690) disclose the compact ultrasound apparatus for medical examination.

Madsen et al. (US No.4,843,866) disclose an ultrasound phantom for use with an ultrasound scanner.

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Ophir et al. (US No.5,107,837) disclose a method and apparatus for measurement and imaging of tissue compressibility or compliance.

Ophir et al. (US No.5,178,147) disclose a method and apparatus for elastographic measurement and imaging.

Ophir et al. (US No.5,293,870) disclose a method and apparatus for elastographic measurement and imaging.

Liu et al. (US No.5,339,815) disclose a methods and apparatus for analyzing an ultrasonic image of animal or carcass.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner Hien Vo, whose telephone number is (703) 308-5253. The examiner can normally be reached on Monday-Friday from 8:30 AM-5:00 PM.

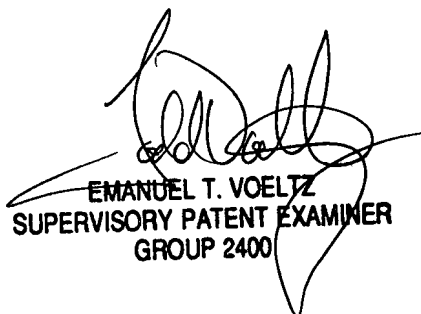
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Todd E. Voeltz, can be reached on (703) 305-9714. The fax phone number for this Group is (703) 308-5358.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3800.



HIEN VO

October 16, 1995



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